

TITLE II ENVIRONMENTAL COMPLIANCE FACESHEET

Title of MYAP: Strengthening Community & Household Resiliency to Food Insecurity in Niger

FFP Grant Number: FFP-A-00-08-00074-00

Country/Region: Niger

Implementing Partner: Counterpart International

Funding Begin: August 2008

Funding End: July 2013

Resource Levels:

LOA Amount: \$17,238,200

Commodity Value: 15,860 MT Rice;
1000 MT Corn; 720 MT CSB;
160 MT Vegetable Oil

Monetization Request: \$9,547,720 **202(e):** \$1,217,989 **ITSH:** \$192,323

IEE Prepared by: Grace Jones, Senior Program Officer, Counterpart International

Date: June 20, 2008

IEE Amendment (Y/N): No

ENVIRONMENTAL ACTION RECOMMENDED:

☒ **Request for Categorical Exclusion(s):** activities have no adverse effect (i.e., training, technical assistance; not to include any infrastructure rehabilitation.)

☒ **Negative Determination:**

(no significant adverse effects expected for activities defined over life of the award.)

☐ **without conditions** (no special mitigation measures needed)

☒ **with conditions** (mitigation measures specified)

☐ **Positive Determination:** potential for significant adverse effect of one or more activities.

Appropriate environmental review needed/conducted.

☐ **Deferral:** elements not well defined; activities will not be implemented until amended IEE is approved.

Briefly describe here:

Environmental Media and/or Human Health Potentially Impacted

(check all that apply):

Air ☐; Water ☒; Land ☒; Biodiversity (specify) ☐; Human Health ☒; Social ☐; None ☐

Summary of Findings

This Initial Environmental Examination (IEE) provides threshold decisions for activities in Niger under Counterpart International's proposed 2008-2013 MYAP. The overall goal of the project is to strengthen resiliency to food insecurity of vulnerable populations in two remote regions in Niger. Mitigation mechanisms that strengthen community resilience include activities that directly address access, availability and utility of food: cereal banks will be strengthened; productive land will be protected from environmental threats; and good nutrition and health practices will be enhanced with diversified agricultural production. Moreover, the program will strengthen livelihood capacities by tailoring activities to the specific opportunities and constraints of the targeted areas.

Based on a proactive approach, incorporation of appropriate mitigation measures and the monitoring plan specified in Table 1 of the IEE, the following environmental determinations are recommended:

Categorical Exclusions are recommended for technical assistance, training, study, surveys, capacity building, data collection and analysis, and document and information transfer; and pre-feasibility activities pursuant to 22 CFR 216.2(c)(1)(i) actions having no significant effect on the environment and 216.2(c)(2)(i) education and training, (iii) workshops and meetings and (v) document and information transfers, since such activities have no or limited scope of physical interventions and no direct effects on the environment. This also applies for demonstration plots and nursery establishment per 22 CFR 216.2 (c) (2) (ii), distribution of de-worming medication and related health and nutrition activities under 22 CFR 216.2 (c) (2) (viii), growth monitoring under 22 CFR 216.2 (c) (2) (iii) (viii) and food distribution under 22 CFR 216.2 (c) (i) (viii) (xi).

A **Negative Determination with Conditions** is recommended for biological and physical soil and water conservation measures with the **conditions** that the activities are appropriately monitored to avoid/minimize unintended negative environmental impacts.

A **Negative Determination with Conditions** is recommended for the introduction and provision of improved seed, vegetable, and fruit production, small ruminant health and production, introduction of appropriate technologies (such as post harvest and food technologies), and support to community-based cereal banks, including the reparation of existing cereal banks and the construction of new ones in communities where they do not currently exist. The **conditions** are that planned mitigation measures will be instituted and monitored to minimize potential negative environmental impacts.

Counterpart will provide adequate training to its staff, partners, and community based organizations involved in program implementation on USAID environmental procedures to ensure that mitigation measures are in place. Program staff will undertake regular monitoring while the country representative or program coordinator will undertake occasional monitoring, to the extent possible.

USAID APPROVAL OF ENVIRONMENTAL ACTION(S) RECOMMENDED:

Clearance:

Mission Director: Mark Wentling Date: 5/3/08

Food for Peace Director: [Signature] Date: 8-11-08

Concurrence:

Bureau for Africa Environmental Officer: Brian Hirsch Date: _____

Approved: ☐

Disapproved: ☐

DCHA Bureau Environmental Officer: Erika Clesceri Date: 8/14/08

Approved: ☒

Disapproved: ☐

Optional Clearances: [Signature] Date: 8/8/08

FFP Officer: [Signature] Date: 8/2/08

Mission Food for Peace Officer: _____ Date: _____

Regional Environmental Officer: Tim Resch (Acting) Date: 8/4/2009

INITIAL ENVIRONMENTAL EXAMINATION

Program/ Activity: Strengthening Community & Household Resiliency to Food Insecurity in Niger
Program Activity: MYAP
Country/ Region: Niger, West Africa
CS Name: Counterpart International

1. Background And Activity Description

1.1 Background

Consistently ranked as one of the poorest countries in the world, a combination of factors including insufficient agricultural production and diversification, recurrent droughts, high population growth and lack of livelihood opportunities, all contribute to high poverty and malnutrition rates throughout Niger. Although agricultural and livestock production are the mainstay of 80% of the population, agricultural production occurs on approximately 1% of the country's total land surface. Another 14% of arable land—the agro-pastoral band—can be used only for cereal and cowpea production due to arid conditions and lack of surface or ground water for irrigation. Prolonged droughts, unsustainable agricultural practices, clearing of new land for agriculture and overgrazing all threaten Niger's ecosystem and consequently, livelihoods and food security. The agro-pastoral band, located on land too marginal for agricultural production, is particularly vulnerable to these threats; areas of the band are consistently among the most vulnerable locations for food insecurity year after year.

It is notable that despite these challenges thousands of households (HH's) have coped relatively well due to their investments in such technologies as Farmer-Managed Natural Regeneration (FMNR) and various soil water conservation measures (zais, demi-lunes, etc.) Through the use of these technologies, farmers diversified their HH economies and avoided some consequences. The following study in the Niger Zinder region assessed the impact of Farmer Managed Natural Regeneration efforts on local livelihoods, and aimed to assess what motivates farmers to protect and manage trees. Refer to the study report "Niger: Etude de la régénération naturelle assistée dans la région de Zinder (Niger): Une première exploration d'un phénomène spectaculaire", located at: http://www.frameweb.org/ev_en.php?ID=17529_201&ID2=DO_TOPIC

The project will target two departments — Goure, located in the Zinder region, and Maine Soroa, located in the Diffa region. Both Goure and Maine Soroa are located in the vulnerable agro-pastoral band where populations are extending agricultural production far into marginal areas northward in order to produce enough for their growing populations. At the same time, the advance of the desert southward dramatically threatens to destroy the productive assets of communities. A satellite imagery study of the southern half of Maine Soroa observed no sand dunes in 1975, but, by 2003, one-third of the total area was covered by sand dunes. Similar environmental changes can be observed in Goure.

Acute malnutrition rates for children under five years of age were among the highest in the country in 2007 for both Diffa and Zinder regions. Soaring rates of acute malnutrition appear to indicate that the departments' populations are at risk for pushing their productive resources to the limits. Malnutrition prevention and treatment and general health issues are compounded by the remoteness of the departments from health services. In Goure, for example, only 23% of the population is living within a radius of five km from a health center.

1.2 Description of Activities

Addressing poverty and promoting livelihoods is necessary to reduce food vulnerability over the long term and enhance resiliency to recurring food insecurity. This project will develop a package of activities that aim to increase household livelihood capacities, focusing on the two key sources of income: agriculture and livestock production. Stronger community resiliency and mitigation mechanisms secure and protect incomes, as well as health, education, and other livelihood benefits. The project will focus on three technical areas to strengthen resiliency against food insecurity in Gouré and Maine Soroa.

- a. **Strengthening Cereal Banks (CBs).** Once every 3-4 years, there is a cereal shortage and emergency food distributions or sales at subsidized prices occur in order to save lives. Ensuring access to cereals therefore is a key component of the resiliency of communities. Cereal banks, which aim to guarantee a reserve of cereal in the villages, are a necessary solution where the local market has not reached the capacity to ensure a supply of cereals year-round at affordable prices. The program will strengthen CB management and monitoring and coordination mechanisms of existing and new cereal banks to increase the quantity of cereal accessible to communities to mitigate lean periods and shocks.
- b. **Natural Resources Management.** In both departments, the local capacity to produce cereals and food is threatened by the advance of the desert and soil erosion that has been occurring since the 1970s. If nothing is done to protect natural resources, communities will continue to lose their main productive fields. Investments in such technologies as Farmer-Managed Natural Regeneration (FMNR) and various soil water conservation measures (zais, demi-lunes, etc.) have proven effective. The project will ensure availability of food by promoting and supporting initiatives to manage the natural resources of communities and restore the fertility of agricultural land. This requires sand dunes be stabilized and land re-vegetated in strategic areas such as wetlands and roads. Fields will be protected from soil fertility loss by implementing agro-ecological measures, such as green fencing, according to recommended models adapted to arid areas.
- c. **Health and Nutrition.** To address the effects of recurrent food crisis on children under five years, the project will strengthen resiliency through developing caretaker capabilities to prevent and treat under-nutrition. The project will focus on ensuring improved utilization of food among households that are rarely reached by governmental health services by connecting them with health and nutritional services through mobile medical teams and through delivery of key health education and nutrition messages. We will also support under-developed Integrated Health Centers' (CSIs) nutritional facilities and the District Hospital in Gouré to prevent and treat moderate and severe malnutrition.

1.2(a) **Strategic Objectives and Intermediate Results**

SO 1 — **Enhance Community Resiliency and Human Capabilities**

IR 1.1 Improved Access of Communities To Cereals

- 1.1A Update diagnostic of cereal banks (CBs) in Gouré and Maine Soroa.
- 1.1B Develop departmental action plan.
- 1.1C Set up departmental monitoring system.
- 1.1D Train CB committees and agents.

- 1.1E Construct and/or rehabilitate CBs.
- 1.1F Rice distribution to (re)stock CBs.
- 1.1G Monitor CB activities.
- 1.1H Training to transform CBs to shops.
- 1.1I Set up departmental networks with increased food crises mitigation capacities.

IR 1.2 Improved Protection of Arable Land against Desertification and Soil Infertility

- 1.2A Selection of 40 wetlands and their respective communities and 60 communities located in areas with less than 350mm of rainfall for agro-forestry activities.
- 1.2B Develop natural resource management plans around wetlands.
- 1.2C Stabilize and re-vegetate sand dunes.
- 1.2D Prepare agro-forestry plots.
- 1.2E Protect and maintain project surfaces.

IR 1.3 Improved Caretaker Capabilities to Prevent and Treat Under-Nutrition

- 1.3A Capacity development to treat malnutrition in Goure's District Hospital and six (CSIs).
- 1.3B Support to nutritional recuperation activities of the health district.
- 1.3C Increase access to nutritional and medical diagnostics and services for children.
- 1.3D Promote positive behavior change on maternal-child health, nutrition and hygiene.

SO 2 — Strengthen Livelihood Capacity of Households

IR 2.1 Increased and Diversified Household Production in Wetland Areas

- 2.1A Training wetland farmers in vegetable and fruit production.
- 2.1B Development of irrigation infrastructure and equipment.
- 2.1C Set up agricultural inputs cooperative shops.

IR 2.2 Increased Adoption by Wetland Area Households of Improved Marketing Strategies

- 2.2A Capacity building for new and existing producer associations.
- 2.2B Training in food processing and packaging.
- 2.2C Develop marketing strategies for locally produced food.

IR 2.3 Enhanced Livelihood Capacities of Vulnerable Households in Arid Areas

- 2.3A Conduct household vulnerability assessment.
- 2.3B Training to develop integrated agro-forestry and fertility restoration plots.
- 2.3C Goat multiplication by women's groups.

1.2(b) Activities

IR 1.1 Improved Access of Communities to Cereals

The project will build two networks, one in each department, of both new and existing Cereal Banks. Most of the existing CBs were established as stand-alone structures by various donors without involving local authorities and departmental technical services in ensuring the CBs long-term sustainability. Our approach will begin with participatory planning among stakeholders to create a multi-year action plan for training and monitoring the CBs and ensuring that they are able to respond effec-

tively in times of food crises. This approach is consistent with the GoN Rural Development Strategy which promotes an integrated CB network.

The project will strengthen 120 CBs in Goure and 80 CBs in Maine Soroa through training, construction and/or rehabilitation of warehouses, and food distribution to (re)stock CB cereal supplies. On average, 1 CB with a capacity of 10MT storage will serve up to 500 people. Therefore, considering that more than 75% of all households in locations where a CB exists are members, direct beneficiaries will be approximately 45,000 in Goure and 30,000 in Maine Soroa. The purposes of IR 1.1 are: (a) increase the quantity of cereal permanently available in communities to mitigate lean periods and shocks from 7-17% of the 1-month needs of the whole department population, to 20-25% of the 1-month needs of the increased population by the end of the MYAP; (b) improve the geographical distribution of CBs throughout the two departments; (c) strengthen CB management, monitoring and coordination mechanisms; and (d) develop a more sustainable approach to CB operations through a commercial orientation towards CB operations. It is estimated that 70-80% of existing CBs need warehouse repair or reconstruction. Some CBs will need to be enlarged to hold a capacity of 10MT of cereal. Counterpart will request tenders from local firms for construction designs and materials to rehabilitate or enlarge the infrastructure of approximately 130 existing CBs and build 40 new CBs with 10MT storage capacity. Project funds will be used for construction materials (roofing, doors, and cement) and for small supplies such as notebooks, scales and pallets. Communities, as part of the CB selection process, will be required to provide the labor for the construction and/or rehabilitation of their CBs.

IR 1.2 Improved Protection of Arable Land against Desertification and Decrease in Soil Fertility

The project will implement environmental protection activities in order to limit the effect of land erosion and the loss of soil fertility on agricultural and livestock production in the target areas. It will support 40 communities — with a total population of over 20,000 members (indirect beneficiaries) to fight against desertification by protecting 40 wetlands through green fencing and re-vegetation to stabilize sand dunes. Such initiatives have already been supported by *Karkara* — a Nigerian NGO and our proposed partner — in 76 wetlands near Goudoumaria, in Maine Soroa. Under Karkara's efforts, more than 654 hectares of sand dunes were stabilized, and bushes, trees and other vegetation now grow in areas that had previously been non-arable. By the end of this program, 116 wetlands out of approximately 1,200 wetlands located in the two departments will have been protected. In addition, the project will train and support 600 heads of households in 60 communities located in areas that don't have access to wetlands: the program will disseminate sound agro-forestry practices that also reduce soil erosion and restore soil fertility. Environmental protection activities will be implemented through cash-for-work schemes that will create additional income opportunities for approximately 8,000 vulnerable community members; among them will be 2,200 farmers that will benefit directly from the increased protection of their fields.

Wetland Communities. In the beneficiary communities surrounding the 40 wetlands, Karkara will implement a CFW activity to stabilize 400 hectares of sand dunes and re-vegetate surface areas, according to the natural resources management plan developed previously. Environmental protection activities implemented by CFW will include green fencing with euphorbia and other similar native shrub species, sowing grass; and planting 220,000 seedlings. Through this CFW activity, 80 kilometers of livestock corridors will be demarcated near the wetlands with green fences. Green fencing will prevent future conflicts between farmers and breeders by marking the areas allocated to intensive irrigated agriculture and those where cattle can access water points. We will contract with private nurseries to supply the seedlings needed for this activity. Project staff will promote species which have been tested in other

sand dune stabilization projects and that also have income potential, such as *Prosopis chilensis* (fast growing, good for firewood), *Acacia raddiana* and *Acacia senegal* (gum Arabic). The project will also test varieties that have been successfully grown in other similar regions of Niger, such as the Australian acacia, which has edible seeds. Seedlings, as well as direct sowing of tree seeds, will be planted at the beginning of the rainy season to ensure their stabilization before the onset of the dry season.

Arid Area Communities. An additional 60 communities will be selected for the agro-forestry component. Selection will take place after initial visits by Counterpart to communities located in the 250-350 mm yearly rainfall band. These visits will be made during the initial diagnostic of the cereal banks. Project staff will collect data on millet and sorghum production and yields at the community level and from the department of agricultural services monitoring systems to identify communities where yields have significantly decreased as a consequence of environmental changes. They will also visually assess soil erosion and desertification. Food security vulnerability among the communities will be judged by average cereal production vs. community requirements. Project staff will also assess the farmers' openness to innovative agro-forestry practices. The combination of these criteria will be used to select the more threatened communities. The 600 farmers that will participate in this agro-forestry program will be selected right after vulnerability analysis has been conducted.

In the beneficiary communities located in arid areas, the project will implement another CFW activity to prepare agro-forestry plots. The program will work in plots that are owned by the farmers who cultivate them (rented plots not eligible). The model to be used is derived from the Sahel eco-farm model developed by ICRISAT and disseminated with the assistance of INRAN. Preparation of the agroforestry plots includes planting green fencing around the perimeters, reinforced by interplanting thorny species to repel livestock and modeling the soil surface with small rows and dikes that will harvest surface water where crops will be later sowed. This innovative system concentrates the small amount of water available around the crops roots, increasing yields and accelerating maturity. Approximately 60,000 seedlings produced by the private tree nurseries will be bought by the program and transported to the CFW sites by 4wd rented vehicles or by animal-driven carts. Tree seeds will also be sowed just before the rainy season to improve the density of trees at a low cost. It is expected that 600 plots of ¼ hectare will be fenced and shaped as a result of this activity.

I.R. 1.3 Improved Caretaker Capabilities To Prevent and Treat Malnutrition

The project will support the treatment of moderately and severely malnourished children by providing financial support to CSIs and the district hospital to treat up to 5,000 children during the LOP. Counterpart will also supply basic medicines to the CSIs through a cost-share to the MYAP. These medicines will include: de-worming pills, anti-amoebas, vitamin A, praziquantel, paracetamol, and re-hydrating salts. Project funds will also be used to build warehouses at each CSI to facilitate commodities management of supplementary and discharge rations, as prescribed in the National Protocol. Basic medical items such as scales and measuring boards and administrative materials such as registers and monitoring and evaluation tools will be provided for each CSI. CPI will connect the CSIs with WFP country programs to obtain supplementary and discharge food rations for malnourished children treated in their facilities, according to the National Protocol to treat malnutrition. UNICEF will also provide mild and ready-to-use therapeutic food. Counterpart will monitor the use of commodities as requested by WFP and UNICEF to ensure their proper management by the CSIs.

IR 2.1 Increased and Diversified Household Production In Wetland Areas

The purpose of this activity is to increase the capacity of producers to better utilize wetland areas to increase crop yields. In doing so, the project will train and equip up to 1600 farmers to increase and diversify production in wetland areas by introducing improved seed and cultivar varieties, conducting trainings in farm management, providing low-cost, environmentally friendly technologies to take advantage of wetland water resources, and ensuring that agricultural inputs are accessible and available.

The project will work with INRAN (Niger Agronomical Institute for Agricultural Research) to identify improved varieties of cassava, banana, and fruits such as moringa and papaya, which will be introduced to the beneficiary farmers through demonstration plots and training. The program will purchase the seedlings and cultivars through INRAN's network of Agricultural Research Stations. INRAN and the extension agents will conduct training on seedling and cultivar propagation to 20 beneficiary farmers who agree to use part of their land to propagate and disseminate the plants free-of-charge to the other beneficiaries. The multiplication trials will prove to the farmers that these new cultivars have higher yields and improved disease resistance. The groundwater table is 0-7 meters deep in the wetlands. To capture this groundwater, farmers —lacking the means to build concrete wells that cost up to 2,000,000CFA each — dig deep and wide holes with a surface area of up to 15m x 15m where the water table is deep, creating slopes that easily break down. This practice reduces the available surface for planting and leads to loss of the soil's organic layer. Alternatively, a low-cost technology is to cover the wells' walls with sheets of metal from second-hand barrels, applied during the digging phase. These wells are the diameter of the barrels (50-60cm) and occupy less than 1 square meter. They cost 200,000-300,000CFA and last about ten years.

This project will assist beneficiary producers by subsidizing 80% of the cost to build these shallow wells. The project will also facilitate the development of irrigation networks by subsidizing 80% of the purchase of hand-pumps as well as the cost of constructing small channels. Based on Karkara's experience in Goudoumaria, we expect approximately 200 shallow wells will be built and 320 producers will equip their plots with irrigation equipment during the LOP. Each of the 40 wetlands will be allocated funds for digging 5 new wells and 8 irrigation networks. One of the criterion in selecting the beneficiary farmers for this activity will be their approval to allow women who own small plots near the wells or channels to freely take water from the privately-owned infrastructure—as women too often lack the financial means to develop their own irrigation systems.

IR 2.2 Increased Adoption by Households of Improved Marketing Strategies

Beneficiary wetland producers under this program will be encouraged to develop new producer associations or to join the existing two, which were recently developed with support from Karkara. Specifically, the two existing producer associations are: *N'Gor Ribaa*, a date producers association with 340 active members from 66 wetlands; and *Kango Kidjii*, a Gum Arabic association with 350 members from 35 villages. The two associations supported by Karkara are still in start-up phase; project assistance will help them further strengthen their capacities. The existing and new farmer associations will be able to sustain the development of wetland agriculture, from production to commercialization. Consequently this component will: (a) promote, strengthen and support existing and new producer associations; (b) support the development of food processing; and (c) foster improved marketing strategies. By the end of the program, at least four associations will work in the project area to sustain activities in specific sectors: (a) Dates: led by the current N'Gor Ribaa Association with sister/daughter groups in new wetlands; (b) Arabic Gum: led by the current Kango Kidjii Association with sister/daughter groups in new communities where *Acacia senegal* will have been planted

through the environmental protection activities; (c) Cassava: potential new association; and (d) Fruits & vegetables: potential new association.

IR 2.3 Enhanced Livelihood Capacities of Vulnerable Households in Arid Areas

Small animal breeding among women's solidarity groups is a more well-known and accepted livelihood-generating activity in Niger that this project will implement in arid areas. It can also serve as a mitigation mechanism in times of food crises for female beneficiaries who head their households. Solidarity groups will be formed among the beneficiaries of the livestock component to jointly care for and breed goats provided by the project. Each solidarity group will consist of at least 10 women who will receive up to 10 animals. Livestock technical services will advise the project as to the breeds of goats to purchase. Goats will be bought at regional markets or breeding centers by beneficiaries accompanied by project staff. A total of 600 goats will be distributed to the solidarity groups. It is anticipated that there will be 1-2 kids produced per year; 3,600 offspring will have been distributed to new solidarity groups by the end of the project. The new animals will be given to other women, increasing the number of members of a solidarity group or forming new solidarity groups in the community. At the end of the project, solidarity groups will have the opportunity to continue as a group or to distribute the animals among the group members.

1.3 Purpose and Scope of IEE

Strengthening Community & Household Resiliency to Food Insecurity will strengthen the resiliency of vulnerable populations to food insecurity in two departments — Goure, located in the Zinder region, and Maine Soroa, in the Diffa region. It will do this by addressing food access and availability within the communities and improving food utilization. The program will also support related governmental health and nutrition services to treat moderate and acute malnutrition. The purpose of this IEE is to provide threshold determinations for Counterpart's health and agriculture activities for a new MYAP in Niger for fiscal years 2008-2113. This IEE covers all proposed activities over the life of the program so as to ensure environmentally sound project design and implementation.

2. Country and Environmental Information

2.1 Locations Affected

Both Goure and Maine Soroa are located in the vulnerable agro-pastoral band where populations are extending agricultural production far into marginal areas northward in order to produce enough for their growing populations. At the same time, the advance of the desert southward dramatically threatens to destroy the productive assets of communities. A satellite imagery study of the southern half of Maine Soroa observed no sand dunes in 1975, but, by 2003, one third of the total area was covered by sand dunes. Palm tree biotopes lost about 50% of their surface, and even area covered by semi-permanent ponds has been more than halved since 1986. Similar environmental changes can be observed in Goure.

In 2005, Karkara and AFVP conducted a comprehensive study of 847 wetlands in Maine Soroa. The study found that on average 30-50 farmers work in a wetland, with an average arable surface of 28.5ha per wetland. Seven percent of wetlands have a water table of less than 1.50m deep; 11% from 1.5-4m; and 82% from 4-7 meters. Forty-five percent of wetlands are used mainly for irrigated production (cassava, and fruits and vegetables such as lettuce, lemons, bananas, and dates; natron is also

harvested in more than 50% of wetlands); 28% serve as watering holes for livestock; and 27% combine the two activities and produce rain-fed agriculture as well. Most of the agricultural production in the wetland areas, however, is low-yielding. This is due to a number of reasons, including: lack of technical assistance for fruit and vegetable cultivation, degenerated cultivars, lack of training on main crop diseases, limited use of organic materials to compensate for soil salinity, inappropriate sowing periods, disruption of the supply of seed and fertilizer inputs, and a lack of means among producers to invest in irrigation infrastructure.

Most of the wetland production areas are located in the southern band between the national road and the border with Nigeria. In the north, with 250-350 mm of annual rainfall, households derive most of their income from rain-fed agriculture (millet and sorghum) and animal production. In such arid areas rain-fed agriculture can never guarantee that the cereal quantities necessary to adequately support households will be produced. Rainfalls are uncertain and soil erosion and fertility loss has led to a decrease in yields. Because they are solely dependent on rain-fed production, these communities face the most hardship during the food crises. Income generating opportunities are scarce, but some innovative models have been developed and tested in West Africa to increase agricultural production yields through an integrated approach which includes soil fertility regeneration, site-appropriate cultivation practices, and protection against erosion and animals. These models, such as the eco-farm model developed by ICRISAT, link rain-fed crop production with agro-forestry techniques. This program will pilot such a model in arid areas in the target region.

Acute malnutrition rates for children under-5, as indicated by a nutritional survey conducted by UNICEF and partners, were among the highest in the country in 2007 for both Diffa and Zinder regions. These soaring rates of acute malnutrition appear to indicate that the departments' populations are at risk for pushing their productive resources to the limits. Malnutrition prevention and treatment and general health issues are compounded by the remoteness of the departments from health services. In Goure (with 1 hospital, 18 integrated health centers and 51 health huts), only 23% of the population is living within a radius of 5 km from a health center. Furthermore, there is 1 doctor for 85,421 persons; 1 nurse for 6,571; and 1 birth attendant for 11,300 women at the age of pregnancy.

Both departments have benefited from limited development projects implemented by the government — under the "Special Program of the President – PSPR" and the "Program of Community Actions (PAC)." These two programs built primary schools, health huts, and implemented other activities to increase access to social services. However, local communities have been rarely involved in the design of these development plans. The main Nigerien organization that has supported local community initiatives to promote food security is the NGO Karkara. Karkara has implemented wetland protection and agricultural development activities in 76 locations near Goudoumaria and managed livestock development programs in Zinder and Diffa regions. Karkara has also been involved in resolution of community conflicts over natural resources in Diffa region. This project will build its approach on some of the most successful of Karkara's activities and on the partnerships with communities and local authorities that have been developed by Karkara.

Due to their remoteness, the two departments have been largely ignored by international NGOs. In Goure, only World Vision and Aquadev have on-going multi-sectoral development programs in Gamou Commune, covering about 20 villages (less than 10% of Goure dept population). Their main activities have consisted of launching cereal banks, digging boreholes and building latrines, building primary schools and health huts, and providing literacy courses. Both Goure and Maine Soroa are also included in the water supply project of DANIDA (PASEHA 2007-2009) that cov-

ers the entire regions of Zinder and Diffa, and that plans to build 83 modern water points (MWP), rehabilitate 190 MWPs, build 3000 household's latrines and promote hygiene education. Maine Soroa has slightly more coverage by donor programs. CARE is implementing a micro-credit program for 24 women's groups. Approximately 65 literacy centers were launched and around 600 basic latrines have been built by various stakeholders. Under FFP, the Helen Keller Institute (HKI) is supporting CSIs to increase their capacity to treat severely malnourished children; with CARE, they also distribute supplementary rations to severely malnourished children and their mothers who are referred to the CSIs. Given HKI's work with CRENs (nutritional recuperation centers) in Maine Soroa, this project will support only CRENs in Goure Dept, where only 1 of the 18 CSIs were supported by World Vision (with OFDA funding) for approximately 2 years. No partners have been working with the Goure health district, and no CREN has been established in the more densely populated southern half of the department. We will confine mobile medical visits only to communities located around Birni Kazoe, mainly in villages of the Goure Commune.

2.2 National Environmental Policies and Procedures

Niger only recently effected a transition to civilian rule in December 1999, following the creation of the National Reconciliation Council. In 2002, Niger's Poverty Reduction Strategy Paper (PSRP) was adopted by government and parliament, with the main objective to halve the incidence of poverty nationally by reducing rural poverty from 66% to 52%. Agriculture is seen as the primary engine of economic growth for three main reasons: (a) high natural potential; (b) over 80% of the population are rural dwellers; and (c) over 80% of the poor are rural. Niger's Rural Development Strategy (RDS) was adopted in 2003 and prepared in line with the PSRP. The RDS envisages three strategic priorities: (a) enable sustainable rural growth by facilitating access by farmers to more remunerative economic opportunities; (b) reduce the vulnerability in rural areas by improving natural resources management and enhancing household food security; and (c) improve the quality of management within the rural sector by building up the capacity of rural institutions and organizations.

The RDS is to be implemented through ten structuring programs and five priority programs. The 10 programs are: (1) community-based local development; (2) local management of natural resources; (3) farmers' organizations and structuring of commodity chains; (4) rural infrastructure; (5) rural finance; (6) research, training and extension; (7) public rural services; (8) safe water and sanitation; (9) household food security; and (10) preservation of the environment. The fourth priority program of the RDS focuses most closely on natural resources development and environmental management: irrigation, rangeland management; soil fertility restoration and reforestation; and ecosystem regeneration.

Counterpart's proposed program falls directly in line with Niger's priorities for its country. Although no additional environmental documentation is required by the government to proceed with the proposed project, all activities will be vetted with local government agencies beforehand to ensure that all legal procedures, including environmental policies, will be followed under both USAID regulations as well as host country policies.

3. Evaluation of Activity/Program Issues With Respect To Environmental Impact Potential

Activities Not Likely to Result to Change in Environment

Most of our activities will have no direct or indirect affect on the environment since they are solely geared toward actions such as training beneficiaries, building community capacity, developing action

plans and setting up community monitoring systems. Activities that do make an impact on the environment are identified below.

Activities Likely to Result to Change in Environment

Rural Infrastructure Development. Activities 1.1E, 1.3A, and 2.1C require construction of cereal banks, commodity storage facilities and small shops, and are each considered to be an integral component in meeting the goals of their specific Intermediate Result. Each of these facilities are very small in size and require only the most basic supplies and materials to erect. However, if no consideration were given to their design and location prior to building, potential adverse side-effects could include the following:

- Damage to ecosystems: overexploitation of scarce wood or thatch resources or unmanaged excavation soils near seasonal riverbeds for brick making causing water pools of vector breeding sites or dangerous open pits.
- Inappropriate layout and construction of structures could result in erosion.
- Construction of level structures on slopes with shallow soils may induce water logging and/or aggressive landslides.
- Damage and/or loss of topsoil and vegetation can result in soil erosion or sedimentation and silt build-up of surface waters.
- When toxic materials are used in construction ground and surface water may be contaminated.
- Sedimentation of streams and surface water due to sediment production through erosion and transport of materials.
- Social impacts if some community members are beneficiaries and others are not.

Health and Nutrition. In component 1.3B, Counterpart will provide Integrated Health Centers (CSIs) with the following medicines: de-worming and anti-amoeba pills, vitamin A, praziquantel, paracetamol, re-hydration salts, and supplies to stock the centers. Although these medicines will be supplied to qualified staff of the government sanctioned CSIs, this activity could directly or indirectly result in the generation of medical waste.

Seedling Production and Reforestation. Activities in 1.2 C, D and E; 2.1 A and B; and 2.3 B are implemented for the purpose of soil and water conservation and environmental protection, but there are instances where improperly planned and designed constructions could have a detrimental effect on the environment. An analysis of potential adverse environmental effects that physical conservation measures can have if not properly implemented include::

- Introduction of new plant species may lead to less farming of local plant species, particularly if new species has outstanding features preferred by the community over the local species, resulting in loss of bio-diversity. New species may induce pest outbreaks and become susceptible to drought or other local weather calamities
- Introduction of inappropriate new plant species that may be uncontrollably invasive.
- Excavation of soil may form stagnating water harboring water born diseases.
- Some grasses and vegetative barriers could spread dramatically and invade adjacent croplands, resulting in serious weed problems and decrease in crop yield.
- Closure of grazing areas and fuel wood collecting areas may increase pressure for serious degradation in the remaining unclosed areas.
- Potential conflict over resources on grazing and closed communal land.

- Planting tree species close to water sources may deplete and lower the level of the ground water table.

Irrigation Interventions. Possible negative environmental impacts associated with the development of small-scale wetland irrigation as described in activity 2.1B include:

- Depletion of fresh water resources (surface and groundwater).
- Intensified agricultural production can lead to increased salinization, decreasing soil fertility.
- Damage to sensitive ecosystems.
- Increased erosion and sedimentation.
- Conflict over water resource/Socio-economic impacts if new irrigation schemes disrupt or highlight discontinuities between traditional and legal land rights.

Animal Husbandry. Activity 2.3 C highlights a women's goat breeding program. Potential negative impacts include:

- Land degradation due to overgrazing.
- Unsafe handling and disposal of veterinary health wastes.
- Outbreak of new diseases.
- Improper disposal & accumulation of goats wastes (feces and urine) may produce a health hazard.
- Degradation of water quality.
- Land tenure insecurity.

4. **Recommended Mitigation Actions**

4.1 **Recommended IEE Determination**

Categorical Exclusions are recommended for technical assistance, training, surveys, capacity building, data collection and analysis, roundtable discussions, monitoring activities, pre-feasibility studies, and document and information transfer activities pursuant to 22 CFR 216.2(c) (1)(i) and 216.2(c)(2)(i), (iii), (v), and (viii) since such activities have no or limited scope of physical interventions and no direct effects on the environment. This Categorical Exclusion does not apply if activities directly affect the environment, such as construction of facilities or use of pesticides, per 216.2(c)(2)(i).

A **Negative Determination with Conditions** is recommended for reforestation and water and soil conservation measures per 22 CFR 216.2(d)(1)(ii) and (iii). The **conditions** relate to the assurance that the activities, which are explicitly designed to address the environmental degradation issues, are appropriately monitored to avoid/minimize unintended negative environmental impacts.

A **Negative Determination with Conditions** is recommended for:

- Introduction & provision of improved seeds, vegetables and fruit production; seed multiplication.
- Livestock health and production.
- Provision of food for work, support to community cereal banks.
- Introduction of appropriate technologies such as food processing and improved farm implements.
- Water supply development on irrigated wetlands to increase efficiency of water storage and use.
- Commodity procurement and building of small facilities less than 1,000 square meters in area.

The **conditions** are that these activities will be implemented while ensuring that reasonable recommendations for planned mitigation measures are being instituted and monitored to minimize potential negative

tive environmental impacts. Program staff and partner organizations will undertake monitoring activities to the maximum extent possible.

4.2 Mitigation, Monitoring, and Evaluation

This section presents mitigation measures and recommendations for activities for which threshold decisions of negative determination with conditions is recommended. The recommended specific mitigation and monitoring measures for each activity with negative determination with conditions are:

Rural Infrastructure Development

- All construction activities will be conducted following principles for environmentally sound construction, as provided in *Chapter 3: Small Scale Construction* of the USAID Environmental Guidelines for Small-scale Activities in Africa, which can be found at www.encapafrica.org.
- For the rehabilitation of existing facilities, and for construction of facilities in which the total surface area disturbed is less than 10,000 square feet, the condition is that these activities will be conducted following principles for environmentally sound construction, as provided in the Small Scale Construction chapter of the USAID Environmental Guidelines for Small-scale Activities in Africa, which can be found at www.encapafrica.org.
- For the construction of any facilities in which the total surface area disturbed exceeds 10,000 square feet (1000 square meters), the program will conduct a supplemental environmental review according to guidance in Annex G of the Africa Bureau Environmental Procedures Training Manual (EPTM). Construction may not begin until such a review is completed and approved by the Mission Environmental Officer.

As the program will involve some construction and irrigation development, the implementing parties will be expected to:

- Follow best engineering practices with qualified professional expertise, including opportunities for energy and water efficiencies.
- Identify and mitigate any direct impacts on the existing physical environment or surrounding socioeconomic environment caused by the construction of and presence of the system. These impacts relate to resource use, earthmoving and construction, and impacts on neighboring populations.
- Identify and mitigate any problems that might undermine or threaten the provision of positive education or health impacts provided by the constructed or reconstructed infrastructure—schools, training centers, water and sanitation facilities, etc. This is related to appropriate design, materials, construction, and management of the system.

Health and Nutrition

Mitigation measures to ensure a sound healthcare waste management system will minimize damage to health and the environment caused by their wastes.

- A written waste management plan will describe all practices for handling, storing, treating, and disposing of hazardous and non-hazardous waste. With reference to the USAID Bureau for Africa's Environmental Guidelines for Small Scale Activities in Africa (EGSSAA) Chapter 8, "[Healthcare Waste: Generation, Handling, Treatment and Disposal](http://www.encapafrica.org/EGSSAA/Word_English/medwaste.doc)" (http://www.encapafrica.org/EGSSAA/Word_English/medwaste.doc) and "WHO's Safe Man-

agement of Wastes from Healthcare Activities”

http://www.who.int/water_sanitation_health/medicalwaste/wastemanag/en/ contains guidance to promote proper handling and disposal of medical waste.

- Written internal rules will formalize desired practices for generation, handling, storage, treatment, and disposal.
- Staff will be trained in safe handling, storage, treatment and disposal.
- Staff will be given refresher courses on the importance of good hygiene practices such as regular washing of hands and face with soap and water to keep the incidence of infection and sickness in the workplace at a minimum.
- Temporary storage containers for hazardous waste will be placed in designated locations.
- Minimization, reuse, and recycling procedures will be set up and monitored for regular practice.

Seedling Production and Reforestation

Seedling production, tree nurseries, plant multiplication, sowing grass, planting vegetative materials and area closures will be undertaken according to USAID and GoN technical and environmental guidelines. If these technical norms are closely adhered to, we believe that the activities will not have a significant adverse impact on the environment. Some of the mitigation measures include:

- Water depleting tree species will be restricted from planting.
- Selected tree and grass species will be compatible with crop production system, having economic benefit and without endangering the environment.
- Encourage and expand enclosure areas to maintain the bio-diversity of tree, shrub, herb and grass species. Approaches of the Farmer Managed Natural Regeneration (FMNR) efforts to protect and manage trees are relevant for this activity, as in the report “Niger: Etude de la régénération naturelle assistée dans la région de Zinder (Niger): Une première exploration d’un phénomène spectaculaire”, located at:
http://www.frameweb.org/ev_en.php?ID=17529_201&ID2=DO_TOPIC
- The technologies to be introduced such as soil fertility management, moisture conservation, and alternate cropping patterns and varieties to be introduced to the communities will be sanctioned under local and international standards. Counterpart will as much as possible promote crop, vegetable and fruit varieties that are native and commonly grown to have a locally proven adaptability; no *invasive* exotic species will be introduced.
- The USAID OFDA, CIAT-CRS-CARE Norway “Seed Aid for Seed Security Practice Briefs” provide up-to-date technical information addresses issues such as introducing new varieties, protecting agrobiodiversity, and exploiting market opportunities during periods of acute and chronic stress. Specific aid-response tools are also offered, including methods for assessing seed system security, guidelines for learning-focused evaluations, and checklists to ensure quality in seed-aid proposal development. http://www.ciat.cgiar.org/africa/practice_briefs.htm.

Irrigation Interventions

- Consider existing and potential downstream and upstream users during planning and design to avoid conflict. Involve all affected in the decision making process.
- Irrigation systems will be designed to minimize erosion risk
- Introduce improved agricultural practices of managing soil fertility and quality degradation under intensified cropping systems, control of inputs, etc.

- Use principles in the Agriculture and Irrigation Chapter of the USAID Bureau for Africa's Environmental Guidelines for Small Scale Activities in Africa (EGSSAA), http://www.encapafrica.org/EGSSAA/Word_English/agriculture.doc .

Animal Husbandry

- A cut-and-carry system to feed livestock will be promoted to avoid the risk of over-grazing of closed and adjacent unclosed areas.
- Propagation of local grasses and legume seed to minimize risk of over domination by exotic seeds and introduction of new pests and weeds.
- Ensure that veterinary health wastes are disposed of per MoH standards.
- Promote appropriate organic manure disposal techniques so that health hazard from accumulated wastes (feces and urine) is avoided.
- No exotic goat species will be introduced; therefore, no adverse environmental impact is expected from the women's goat breeding project

Monitoring and Evaluation will take place as set forth in the attached Table 1, Environmental Mitigation and Monitoring Activities.

Mitigation & Monitoring for Activities Classified Under Negative Determination with Conditions

| Activity | Sub-Activity | Potential Environmental Impact and Causes | Mitigation Measures | Monitoring (Suggest Indicators) | Monitoring Frequency | Responsibility |
|----------------------------------|---|--|--|--|---|--------------------------------------|
| Rural Infrastructure Development | Construction/rehabilitation of Cereal Banks | <ul style="list-style-type: none"> • Damage to ecosystems • Erosion | <ul style="list-style-type: none"> • New construction will be supervised by a professional engineer trained in environmental mitigation measures | % area covered by native vegetation | Quarterly (while sites are under construction) | M&E Officer |
| | Construction of commodity warehouses | <ul style="list-style-type: none"> • Water Logging • Sedimentation and silt build-up • Loss of topsoil and vegetation • Surface and Ground Water Contamination • Social Impacts | <ul style="list-style-type: none"> • Technical staff will be trained in environmental management prior to construction • Best engineering practices will be followed with qualified professional expertise • Identification and mitigation of any direct impacts on the existing physical environment or surrounding socio-economic environment cause by construction • Identification and mitigation of any potential threat that may undermine positive education and health impacts caused by the constructed or reconstructed infrastructure • Appropriate design, materials, construction, and management will be enforced • Burrow pits will be properly drained or back filled • Measures to minimize erosion will be applied • Involve all affected in the decision making process | Depth (cm) of topsoil; % slope in area under Construction % soil humidity % HH using community cereal banks | Note: Construction and rehabilitation of all infrastructure projects will be supervised by on-site technical staff. Additionally, a qualified engineer trained in environmental mitigation measures will oversee areas where there are new construction sites, monitoring them periodically during the who will monitor progress of each site. | Commodity Manager Health Director |

| Activity | Sub-Activity | Potential Environmental Impact and Causes | Mitigation Measures | Monitoring (Suggest Indicators) | Monitoring Frequency | Responsibility |
|---------------------------------------|--|---|--|--|----------------------|--------------------------------------|
| Health and Nutrition | Provision of medicines and supplies for community health centers | <ul style="list-style-type: none"> Pollution due to generation of medical waste | <ul style="list-style-type: none"> A written waste management plan will describe all practices for handling, storing, treating, and disposing of hazardous and non-hazardous waste. Written internal rules will formalize desired practices for generation, handling, storage, treatment, and disposal Staff will be trained in safe handling, storage, treatment and disposal Temporary storage containers for hazardous waste will be placed in designated locations Minimization, reuse, and recycling procedures will be set up and monitored for regular use | <ul style="list-style-type: none"> % of visible trash related to medical waste # of recycling bins set up in community health centers # of recycling bins with clear evidence of regular use in community health centers (i.e., medical waste can be seen in the bins; staff are comfortable reciting the waste disposal policies and are seen using the facilities.) # of facilities with written formalized policies for handling, storing, treating, and disposing of hazardous and non-hazardous waste | Quarterly | M&E Officer Health Director |
| Seedling Production and Reforestation | Stabilization/ re-vegetation of sand dunes. Preparation of agro-forestry plots. Protection and maintenance of project surfaces | <ul style="list-style-type: none"> Introduction of new plant species may lead to less farming of local plant species resulting in a loss of bio-diversity Decrease in ground water table Conflict of resources Increased salinization Decreased soil fertility Damage to ecosystem Increased pressure on natural resources | <ul style="list-style-type: none"> Selected tree and grass species will be compatible with crop production systems, having economic benefit without endangering the environment. Water depleting tree species will be restricted from planting. A written waste management plan will describe all practices for handling, storing, treating, and disposing of hazardous and non | <ul style="list-style-type: none"> # of unique native species per plot % coverage of native species % area with fertile, (productive) soil % soil humidity % HH using conservation practices | Quarterly | M&E Officer Agricultural Director |

| Activity | Sub-Activity | Potential Environmental Impact and Causes | Mitigation Measures | Monitoring (Suggest Indicators) | Monitoring Frequency | Responsibility |
|------------------|--|--|--|--|----------------------|--------------------------------------|
| Irrigation | Development of irrigation infrastructure and equipment | <ul style="list-style-type: none"> • Depletion of fresh water sources • Increased salinization/Decreased soil fertility • Damage to ecosystem • Increased erosion • Conflict over water resources | <ul style="list-style-type: none"> • Consider existing and potential downstream and upstream users during planning and design to avoid conflict. • Involve all affected in the decision making process. • Systems will be designed to minimize erosion risk. • Appropriate agricultural practices for intensified cropping systems will be applied to manage soil fertility and monitor quality degradation of surrounding natural resources | <ul style="list-style-type: none"> % area under agricultural production Depth (in cm) of topsoil % of HH in participating communities who rate themselves as having insufficient, sufficient, or more than sufficient water resources for irrigation % soil erosion where irrigation activities are taking place | Quarterly | M&E Officer Agricultural Director |
| Animal Husbandry | Goat multiplication by women's groups | <ul style="list-style-type: none"> • Land degradation due to overgrazing, • Unsafe handling and disposal of veterinary health wastes • Outbreak of new diseases • Improper disposal and accumulation of goat waste • Degradation of water quality • Land tenure insecurity | <ul style="list-style-type: none"> • Cut-and-carry system to feed livestock will be promoted to avoid risk of over-grazing. • Propagate local grasses and legumes to minimize risk of over-domination by exotic species and introduction of new weed and insect pests. • Veterinary health wastes will be disposed per MoH standards. • Appropriate organic manure disposal techniques will be promoted to avoid any health hazards. • No exotic goat species will be introduced. | <ul style="list-style-type: none"> # of HH that maintain goats in enclosed area. # of HH using a hygienic system for disposing of goat waste (composting, burying, burning) and veterinary supplies. % goats infected by disease in target areas. # of HH participating in goat project using cut-and-carry (or other effective) method for food and water to ensure neither water contamination nor land degradation occurs in surrounding areas. % coverage (vegetation) in 1/8 mile radius of participating households | Quarterly | M&E Officer Agricultural Director |